

MULTIMEDIA



UNIVERSITY

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# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 3, 2017 / 2018 SESSION

### **DOM5018 – OPERATIONS MANAGEMENT**

(For Diploma Students Only)

01 JUNE 2018  
9.00am – 11.00am  
(2 Hours)

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#### INSTRUCTIONS TO STUDENT

1. This question paper consists of **NINE (9)** pages with **TWO (2)** sections.
2. Answer **ALL** questions.
3. For section A, shade your answers in the OMR sheet provided.
4. For section B, write your answers in the answer booklet provided.

**SECTION A: MULTIPLE CHOICE QUESTIONS (each question carries 1 mark). Answers for this section should be shaded on the OMR sheet provided.**

1. Operations management is applicable \_\_\_\_\_.
  - A. to service sector only
  - B. to manufacturing sector only
  - C. mostly to manufacturing
  - D. to all organisations
  
2. Which of the following is **NOT** a typical goods' attribute?
  - A. Reselling is unusual.
  - B. Limited customer involvement in production.
  - C. Tangible.
  - D. Product typically produced at a fixed facility.
  
3. The BZ Manufacturing works two 8-hour shifts each day. In the past, 820 bicycles were produced by the end of each day. The use of new technology has enabled them to increase the productivity by 25%. Productivity is now approximately \_\_\_\_\_.
  - A. 102.5 bicycles per hour
  - B. 128.1 bicycles per hour
  - C. 51.3 bicycles per hour
  - D. 64.1 bicycles per hour
  
4. Which of the following are the three essential functions that all organisations must have?
  - A. Marketing; Information Technology; Accounting / Finance.
  - B. Marketing; Engineering; Accounting / Finance.
  - C. Engineering; Marketing; Quality Control.
  - D. Marketing; Production; Accounting / Finance.
  
5. Which of the following forecasting method has the “group-think” disadvantage?
  - A. Delphi method.
  - B. Sales force composite.
  - C. Market survey.
  - D. Jury of executive opinion.

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Continued...

6. A naïve forecast for February sales of a product would be equal to the actual sales for \_\_\_\_\_.

- December
- January
- the past six-months
- the past three-months

7. Which of the following product was manufactured to match the demand based on seasonal component?

- Hybrid car.
- Winter jacket.
- Swimming suit.
- Piano.

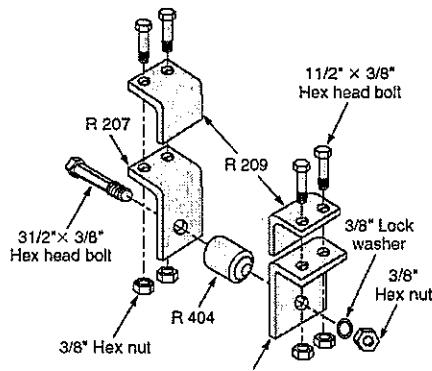


Figure 1

8. Figure 1 shows a(n) \_\_\_\_\_ of a product.

- work order
- assembly drawing
- assembly chart
- route sheet

9. Which of the following product design shows an environmentally-friendly approach?

- Using biodegradable materials as packaging.
- Using cheaper raw materials.
- Using expensive raw materials to imply better quality product.
- Revise the operations procedures to match with local government laws and regulations.

Continued...

10. Which of the following is **NOT** a service design technique used to add efficiency?

- A. Automate the process.
- B. Limit the options.
- C. Modularisation.
- D. Encourage customers to customise their product.

11. The purpose of \_\_\_\_\_ is to ensure the quality of the product meets the customer's expectation.

- A. Six Sigma
- B. benchmarking
- C. source inspection
- D. employee empowerment

12. May commented that smartphone AA has a better quality than smartphone BB because smartphone AA has more features. May's definition on quality was \_\_\_\_\_ based.

- A. manufacturing
- B. user
- C. general
- D. product

13. An assembly line is an example of \_\_\_\_\_ process.

- A. product focus
- B. process focus
- C. mass customisation
- D. repetitive focus

14. Which of the following is most likely to have low equipment utilisation?

- A. Bakery.
- B. Car manufacturing firm.
- C. Chemical firm.
- D. Cafe.

15. Which of the following is **NOT** one of the considerations for good layout?

- A. Capacity and space requirements.
- B. Cost of moving between various work areas.
- C. Material handling equipment.
- D. High exposure to sunlight.

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Continued...

16. Manufacturers are required to pay \_\_\_\_\_ to retailers to get the retailers to display their products.

- A. allowances
- B. incentives
- C. salary
- D. slotting fees

17. Which of the following is **NOT** one of the helpful ideas for supermarket layout?

- A. Use end-aisle locations.
- B. Locate low-draw items around the periphery of the store.
- C. Use prominent locations for high-impulse and high-margin items.
- D. Distribute power items to both sides of an aisle and disperse them to increase viewing of the other items.

18. Robert allows his employees to start work between 7 a.m. to 9 a.m. and they are required to work 8 hours a day. This is an example of \_\_\_\_\_.

- A. standard work schedule
- B. flextime
- C. flexible workweek
- D. part timer

19. \_\_\_\_\_ is the study of the human interface with the environment and machines.

- A. Human resources
- B. Ergonomics
- C. Labour planning
- D. Autonomy

20. Aminah is working as a junior clerk. Her main responsibilities are answering phone calls, preparing letter and photocopying. The superior has recently gave her responsibilities, which include arranging work schedules which was previously done by her senior. This is an example of \_\_\_\_\_.

- A. job enlargement
- B. job enrichment
- C. job enlargement
- D. employee empowerment

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21. Which of the following is the **BEST** to describe e-procurement?

- A. Speed integration for internal operations.
- B. Speed integration for quality management.
- C. Speed purchasing and reduce cost.
- D. Speed purchasing and increase cost.

22. The Japanese concept of a company coalition of suppliers is \_\_\_\_\_.

- A. takumi
- B. taguchi
- C. kaizen
- D. keiretsu

23. Ramli Manufacturing bought over a logistic company that transports their finished goods to retailers. This sourcing strategy is **BEST** referred as \_\_\_\_\_.

- A. forward integration
- B. backward integration
- C. horizontal integration
- D. keiretsu integration

24. \_\_\_\_\_ is anything that does not add value from the customer's point of view.

- A. Storage
- B. Just-in-time
- C. Waste
- D. Inspection

25. Which of the following is **NOT** in Ohno's seven wastes?

- A. Queues
- B. Overproduction
- C. Defective products
- D. Display items

26. \_\_\_\_\_ is about supplying the customer with exactly what the customer wants, when the customer wants it, without waste, and through continuous improvement.

- A. Just-in-time
- B. Lean operations
- C. Competitive advantages
- D. Supplier partnerships

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Continued...

27. In Toyota Production System, stopping the production process because of defects is called \_\_\_\_\_.

- A. shitsuke
- B. gemba
- C. poka-yoke
- D. jidoka

28. Which of the following 5S refers to maintaining the cleanliness every day?

- A. Sustain.
- B. Sort.
- C. Shine.
- D. Standardise.

29. \_\_\_\_\_ is all activities involved in keeping a system's equipment in working order every day.

- A. Maintenance
- B. Reliability
- C. Inspection
- D. Scheduling

30. "Fix it whether or not it is broken", this is an example of \_\_\_\_\_.

- A. breakdown maintenance
- B. preventive maintenance
- C. lean operations
- D. total quality management

**[TOTAL 30 MARKS]**

**Continued...**

**SECTION B: STRUCTURED QUESTIONS.****Answer ALL questions.****QUESTION 1**

- a) Describe the **THREE (3)** strategies for competitive advantage. State **ONE (1)** example of a firm for each strategy. (9 marks)
- b) Define '*outsourcing*'. (1 mark)
- c) Describe **TWO (2)** reasons why outsourcing is accelerating. (2 marks)
- d) List **THREE (3)** activities in an organisation that are commonly outsourced. (3 marks)

**QUESTION 2**

The objective of inventory management is to strike a balance between inventory investment and customer service

- a) Why inventory is important in an organisation? (1 mark)
- b) List any **THREE (3)** functions of inventory. (3 marks)
- c) Explain the **FOUR (4)** types of inventory. (8 marks)
- d) Explain the dependent demand and independent demand with an example for each. (3 marks)

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**QUESTION 3**

a) Infinity Convention Center has the physical ability to handle 7,000 participants. However, the manager believes that only 6,000 participants are appropriate due to lighting and sound systems. The last conference event, although forecasted to have 6,000 participants, resulted in the attendance of only 5,200 participants.

- How much is the design capacity? (1 mark)
- How much is the effective capacity? (1 mark)
- Calculate the utilisation rate. (2 marks)
- Calculate the efficiency rate. (2 marks)

b) Tappers Printing produces 2,000 copies of magazine a month. If design capacity is 4,300 units and efficiency is 50%, find the utilisation rate and effective capacity. (4 marks)

c) Taj Manufacturing wants to establish Kanban to reduce inventory. The following data have been provided.

Daily demand	:	1000 connectors
Lead time	:	2 days
Safety stock	:	$\frac{1}{2}$ day
Kanban size	:	500 connectors

***Exhibit 1***

- How many kanbans are needed? (4 marks)
- What is 'Kanban'? (2 marks)
- List any **FOUR (4)** advantages of Kanban. (4 marks)

**Continued...**

## **QUESTION 4**

### ***“Finding a Location for Electronics Component Manufacturing in Asia”***

ACM is an electronics component manufacturer that has been located in Singapore since 1991, supplying original equipment manufacturers (OEMs) with quality components. In the past several years, ACM has experienced increasing pressure from other manufacturers located in other countries. In Singapore, while labor remains quite inexpensive, there has been a relatively steady increase in labour costs. In addition, utility costs – most notably water and energy costs – have led the firm to contemplate moving operations elsewhere in Asia in an attempt to make the firm more competitive.

A senior management team has formed a committee to reach a decision regarding possible relocation. The committee has identified two additional locations as possible candidates for relocation: Hong Kong (People's Republic of China [PRC]) and Kuching (Malaysia). Hong Kong's main attractions is that the labor costs have decreased as access to labor has increased. Hong Kong enjoys a large seaport and very good transportation infrastructure, and this is important in moving in raw materials and moving out finished goods to customers. Kuching is located in the Malaysian province of Sarawak. Several points make Kuching attractive to the relocation committee. First, locating here would provide access to natural resources and other production inputs. Second, the transportation infrastructure is good, and the city hosts a deep sea port for moving raw materials in and finished goods out. That said, the port is not as large or accessible as those of Hong Kong or Singapore, and several committee members have expressed concern about the frequency of ship visits to Kuching. If the port does not receive regular service from container ships, transportation costs to ship components to OEMs will increase. Finally, another selling point is that labor is relatively stable and inexpensive in Malaysia.

*Adapted from Heizer, J., Render, B. & Munson, C. (2016). Operations Management- Sustainability and Supply Chain Management, 12th Ed., Pearson Education.*

- a) Based on the article above, what are the **TWO (2)** disadvantages of current operations in Singapore? (4 marks)
- b) Based on the article above, state the **TWO (2)** potential candidates for relocation and the **TWO (2)** advantages for each location. (10 marks)
- c) List the **SIX (6)** shipping systems. (6 marks)

**[TOTAL 70 MARKS]**

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